

PRECISION PUNCHES WITH KEY GROOVES

Type	RoHS	Catalog No.	Shape
Lapping	Equivalent to SKD11 60~63HRC	VSKAS VSKAL L-VSKAS L-VSKAL	
		Powdered high-speed steel 64~67HRC	

Catalog No.		D	L						0.001mm increments min. P max.	0.1mm increments T	B	U	
Type													
S Lapping	VSKAS L-VSKAS	3	40	45	50	55	60	1.000~2.990	T ≥ 2.0	8	0.5		
	VPKAS L-VPKAS	4	40	45	50	55	60	65				70	1.000~3.990
		5	40	45	50	55	60	65				70	2.000~4.990
		6	40	45	50	55	60	65				70	2.000~5.990
L Lapping	VSKAL L-VSKAL	3		50	55	60		1.000~2.990	T ≥ 2.0	13	0.5		
	VPKAL L-VPKAL	4		50	55	60	65	70				1.000~3.990	
		5		50	55	60	65	70				2.000~4.990	
		6		50	55	60	65	70				2.000~5.990	

If no key groove is required, select T=L.

Order **Catalog No.** - L - P - T
VPKAS 4 - 50 - P2.500 - T15.1

Price **Quotation**

If no key groove is required, select T=L.

Days to Ship **Quotation**

Alterations **Catalog No.** - L(LC) - P(PC) - T - (BC-LKC-UK, etc.)
VSKAS 3 - 40.0 - PC0.800 - T13.0

Alteration	Code	Spec.	1Code										
Alterations to tip	PC	Tip dimension change Pmin./2 ≤ PC < P 0.001mm increments <table border="1"> <tr><th>P</th><th>Bmax.</th></tr> <tr><td>0.500~0.799</td><td>6</td></tr> <tr><td>0.800~0.999</td><td>8</td></tr> <tr><td>1.000~1.999</td><td>13</td></tr> <tr><td>2.000~</td><td>19</td></tr> </table>	P	Bmax.	0.500~0.799	6	0.800~0.999	8	1.000~1.999	13	2.000~	19	Quotation
	P	Bmax.											
	0.500~0.799	6											
	0.800~0.999	8											
	1.000~1.999	13											
2.000~	19												
BC	Tip length change 2 ≤ BC ≤ Bmax. 0.1mm increments Full length L must be at least 25mm longer than tip length BC.												
PRC	Rounding of tip side edge 0.3 ≤ PRC ≤ 1 0.1mm increments PRC ≤ (P - d1 - 0.5)/2 Cannot be combined with PCC·GC.												
PCC	Chamfering to tip side edge 0.3 ≤ PCC ≤ 1 0.1mm increments PCC ≤ (P - d1 - 0.5)/2 Cannot be combined with PRC·GC.												
GC	20° ≤ GC < 90° 1° increments Tip length B ≥ f + 2 f = P/2 × tan(90° - GC°) Cannot be used for P ≤ 1.000. Punches with lapping are rounded at the edges.												

Alteration	Code	Spec.	1Code						
Alterations to full length	LC	Full length change 25 + B(C) ≤ LC < L 0.1mm increments (if combined with LKC, 0.01mm increments can be selected.) If difference between full length and tip length is 25mm or less, tip length is adjusted to (Full length - 25mm).	Quotation						
	LKC	Full length tolerance change L + 0.1 → +0.01 0 → 0							
Alterations to key groove	UK	Key groove depth change <table border="1"> <tr><th>D</th><th>UK</th></tr> <tr><td>4-5</td><td>0.7</td></tr> <tr><td>6</td><td>1.2</td></tr> </table>	D	UK	4-5	0.7	6	1.2	Quotation
	D	UK							
4-5	0.7								
6	1.2								
	Cannot be used for D3.								
Alterations to shank	SKC	Single key flat on shank P ≤ D - 1.2 (Machining width 0.5) SKC alteration is added at a position symmetrically opposite to the key groove.	Quotation						
	NDC	No press-in lead ℓ = 3 ⇔ ℓ = 0							

PRECISION PUNCHES WITH KEY GROOVES AND AIR HOLES

Type	RoHS	Catalog No.	Shape
Lapping	Equivalent to SKH51 61~64HRC	VSKJAS VSKJAL L-VSKJAS L-VSKJAL	
		Powdered high-speed steel 64~67HRC	

Catalog No.		D	L						0.001mm increments min. P max.	0.1mm increments T	B	d1	S	d2	U	
Type																
S Lapping	VSKJAS L-VSKJAS	4	40	45	50	55	60	1.500~3.990	T ≥ 2.0	8	0.5	20	1.2	0.5		
	VPKJAS L-VPKJAS	5	(40)	45	50	55	60	65							70	2.000~4.990
		6	(40)	45	50	55	60	65							70	2.000~5.990
L Lapping	VSKJAL L-VSKJAL	4		50	55	60		1.500~3.990	T ≥ 2.0	13	0.5	20	1.2	0.5		
	VPKJAL L-VPKJAL	5		50	55	60	65	70							2.000~4.990	
		6		50	55	60	65	70							2.000~5.990	

If no key groove is required, select T=L.

L(40) → S=17 If full length is (40), S dimension is 17mm.

Order **Catalog No.** - L - P - T
VPKJAL 4 - 60 - P2.013 - T13.0

Price **Quotation**

If no key groove is required, select T=L.

Days to Ship **Quotation**

Alterations **Catalog No.** - L(LC) - P(PC) - T - (BC-LKC-UK, etc.)
VPKJAS 5 - 50.0 - PC1.800 - T16.0

Alteration	Code	Spec.	1Code						
Alterations to tip	PC	Tip dimension change PC ≥ PCmin. 0.001mm increments <table border="1"> <tr><th>D</th><th>PCmin.</th></tr> <tr><td>5</td><td>1.800</td></tr> <tr><td>6</td><td>1.800</td></tr> </table>	D	PCmin.	5	1.800	6	1.800	Quotation
	D	PCmin.							
	5	1.800							
	6	1.800							
BC	Tip length change 2 ≤ BC < B 0.1mm increments								
PRC	Rounding of tip side edge 0.3 ≤ PRC ≤ 1 0.1mm increments PRC ≤ (P - d1 - 0.5)/2 Cannot be combined with PCC.								
PCC	Chamfering to tip side edge 0.3 ≤ PCC ≤ 1 0.1mm increments PCC ≤ (P - d1 - 0.5)/2 Cannot be combined with PRC.								
Alterations to full length	LC	Full length change LC < L 0.1mm increments (if combined with LKC, 0.01mm increments can be selected.) B and S dimensions are shortened by (L - LC).	Quotation						
	LKC	Full length tolerance change L + 0.1 → +0.01 0 → 0							

Alteration	Code	Spec.	1Code						
Alteration to key groove	UK	Key groove depth change <table border="1"> <tr><th>D</th><th>UK</th></tr> <tr><td>4-5</td><td>0.7</td></tr> <tr><td>6</td><td>1.2</td></tr> </table>	D	UK	4-5	0.7	6	1.2	Quotation
D	UK								
4-5	0.7								
6	1.2								
Shank	NDC	No press-in lead ℓ = 3 ⇔ ℓ = 0							